

What Is Claimed Is:

1. A fuel injector (1), especially for directly injecting fuel into a combustion chamber of an internal combustion engine, having a valve needle (3) which, at its spray-discharge end, has a valve-closure member (4) that cooperates with a valve-seat surface (6), formed on a valve-seat member (5), to form a sealing seat, at least one spray orifice (7) provided downstream from the sealing seat, and an armature (20) that acts on the valve needle (3), the armature (20) being positioned so as to be axially movable on the valve needle (3) between a first limiting stop (21) situated on the valve needle (3) and a second limiting stop (34), wherein the armature (20) is hydraulically damped at the first limiting stop (21) by a pressure medium.
2. The fuel injector as recited in Claim 1, wherein the pressure medium is fuel, in particular gasoline or diesel fuel.
3. The fuel injector as recited in Claim 1 or 2, wherein the second limiting stop (34) is fixed nonadjustably to the valve needle (3) or to an adjusting disk (15) or immovably with respect to the housing.
4. The fuel injector as recited in one of Claims 1 through 3, wherein, on its side facing the armature (20), the first limiting stop (21) has a first recess (39), and/or the armature (20) on its side facing the first limiting stop (21) has a second recess (41).

5. The fuel injector as recited in Claim 4,
wherein the first recess (39) and/or the second recess (41)
are formed in single or multiple stages.

6. The fuel injector as recited in Claim 4 or 5,
wherein the first recess (39) and/or the second recess (41)
are partially bounded by the valve needle (3).

7. The fuel injector as recited in one of Claims 4 through 6,
wherein the first limiting stop (21) has a plurality of first
recesses (39), and/or the armature (20) has a plurality of
second recesses (41).

8. The fuel injector as recited in one of Claims 4 through 7,
wherein the first limiting stop (21) engages in the second
recess (41) situated in the armature (20), and/or the armature
(20) engages in the first recess (39) situated in the first
limiting stop (21).

9. The fuel injector as recited in one of Claims 4 through 8,
wherein the armature (20), together with the first recess
(39), and/or the first limiting stop (21), together with the
second recess (41), form at least one chamber (42) having at
least one throttling point (43).

10. The fuel injector as recited in Claim 9,
wherein the chamber (42) is partially bounded by the valve
needle (3).

11. The fuel injector as recited in one of Claims 4 through
10,

wherein the first recess (39) and/or the second recess (41) have a circular or annular design.